

Determinants of Household Consumption Expenditure in Debremarkos Town, Amhara Region, Ethiopia

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Abstract

Household consumption expenditure is the desired amount incurred to meet out their basic needs such as food, clothing, housing, transport, etc to fulfill their day to day life. Household's decision on how much to consume or save is a microeconomic question as it deals with the individual units of the economy. The main objectives of the research study were to assess and to evaluate consumption expenditure of the households at Debremarkos town in Amhara region of Ethiopia. A total of 100 respondents, were randomly selected to administer the interview schedule for data collection. The data were described using means and histograms. The multiple linear regression model was applied to identify determinants for consumption expenditure of a household. The descriptive result shows minimum monthly consumption level of respondents is 683 Birr and maximum is 16,433 Birr. The mean monthly consumption level is 5777 Birr. Households expend more for food and next to other basic needs like cloth. The mean consumption value of those who are working in Governmental institutions was less than self-employed households. The econometric model pointed disposable income and family size are directly related to consumption; and saving amount is negatively related with consumption. Disposable income is also found to be most determinant factor to determine household consumption. Finally, the study recommends that a household should practice family planning and aware to develop saving habit rather than spending more to irrelevant activities.

Keywords: Consumption; Disposable income; linear regression; Household Heads; Expenditure; Saving.

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1. Introduction

1.1. Back ground of the study

Consumption is the most important component of national income accounting and the aggregate demand. It is the ultimate economic activity on which the welfare of the economy depends and constitutes a major portion of disposable income of the households on micro economic level. Household consumption plays an important role in the socio-economic development. Peoples reasonable consumption patterns and moderate consumption size conducive to sustain economic health of scale of growth, and this is the concrete embodiment of people's living standards. Household consumption expenditures consist of the market prices of all goods and services purchased by the households to satisfy their needs and wants. It includes all durable and non-durable goods such as cars, household washing machines, television etc. Household consumption expenditures excludes purchases of residences but includes owner-occupied residences imputed rent [12]. The consumption decision is crucial for short-run analysis because of its role in determining aggregate demand. Consumption consists of the goods and services bought by household in different product categories. It makes two-thirds of GDP, so fluctuations in consumption are a key element of booms and recessions of the business cycle. The consumption decision is also crucial for long-run analysis because of its role in economic growth. Household consumption expenditures, investment, public expenditures and net export are the components of GDP. Due to the high share in GDP, consumption expenditures are taken into account in macroeconomic policies for fiscal planning. Policy makers try to predict how the consumers will behave in the face of income fluctuations [5]. Household's decision on how much to consume or save is a microeconomic question as it deals with the individual units of the economy. However, it has an influence on the economy as a whole since aggregate household consumption determines the behavior of the economy in the short and long run. The effect of changes in consumer spending on aggregate demand is crucial for short run analysis. Consumption forms about two-thirds of GDP. Hence, fluctuation in the level of consumption can create shocks in the economy. In the short run, the marginal propensity to consume has a hand in determining the fiscal policy multiplier. Household consumption also has a part to play in long run analysis because of its influence on the growth of the economy. Most often than not, the terms: consumption and consumer expenditure are used interchangeably. There is a clear cut difference between the two. Consumption is the amount of service of a good that is used up in any one period whilst consumer expenditure is the expenditure on consumer goods in a period. The consumption function is used to calculate the total consumer spending in an economy. Various Schools of thought have come up with propositions with regards to the measurement of Consumption. Consumption is one aspect of the human life which cannot be done away with. Even now and then individual households and the Government come across the status of consumption. Despite the fact that consumption is one of the fundamental determinants of aggregate economic activities there is no consensus among economists about the consumption hypothesis which represents consumer behavior. Various Schools of thought have propounded ways of measuring consumption. Of all the Schools of thought, the most commonly used is the Permanent Income Hypothesis [13]. Generally in Ethiopia including especially in Amhara region the household consumption behavior is in the lowest level this is because, since most of the people in Ethiopia produced agricultural products and these products are both price and income inelastic the return from such type of production is very low[10].

1.2. Statement of the Problem

Consumption is perhaps the most important economic behavior of human beings. Because of that, generations of economists have studied the major variables that affect the people's consumption pattern. Income is the most important factors that determine the level of household's consumption and demographic characteristics shape the spending pattern of the households. The consumption pattern of the household may not only vary with income per person in a household but also with its size, age of the head of household, and sex composition. The aging of the population has two implications for the patterns of consumption. First people purchased different things at different ages, for example, younger people spend more on children care services and clothing, while older people spend relatively more on health care. It implies the age of the household head is one of the factors for variation in consumption patterns among household [14]. Consumption as an economic concept has been a source of controversy. Its controversial nature is underlined by the applicable number of studies and contributions that have been made towards establishing its determinants. In effects therefore, a lot of hypothesis are associated with consumption expenditure as economic concept. Among those, the famous American economist Friedman has advanced a hypothesis regarding consumption behavior, called permanent income hypothesis, according to which consumption of an individual depends on permanent income rather than current level of income [15]. Duesenberry has propounded that consumption expenditure depends on income of an individual relative to incomes of others rather than the absolute size of his own income [3]. In all aspects households face problems to satisfy their needs, because individual are live in the incomplete world. Therefore, the household consumption expenditure in world, continent and country even at regional level are different. This is due to variation of income and other variables among nations and peoples in the world. When individual income increases, consumption and saving also increases. It implies that consumption is determined by household income [9]. A study conduct in Addis Ababa city found that household income and family size as main determinants of the household consumption behavior [11]. But this study would need more explanatory variables that determine the consumption expenditure of the household. This study wants to search other variables that determine the household consumption expenditure. This is one reason that initiates to conduct a research on household consumption expenditure. On the other hand, according to [16] saving or investment is almost proportional and affected by consumption level. That is, if the household consumption has such type effect on the economy, the economy has changed. In least developed countries like the Ethiopia, household are more interested on consumption than investment. Thus, the consumption level of the household can determine the investment level of country. The Government of Ethiopia is interested to design suitable policies and strategies to overcome such problems. The present study provides data and identifies possible factors for the formulation of policies that make household consumption pattern healthy in the economy and especially in the study area. This is another reason enabling to conduct a research on household consumption expenditure. To sum up, this study provides answers to the following questions

- What is the consumption pattern of the households in Debre Markos town?
- What are the major determinant factors that affect household consumption expenditure?
- What are the effect of the household disposable income, family size, education level of household head, age of the household head and saving status of the households on household consumption expenditure in the town?

1.3. Objective of Study

1.3.1. General Objective

The general objective of this study was to evaluate household consumption expenditure in Debre Markos town.

1.3.2. Specific Objectives

The specific objectives of the study were

- to assess the consumption pattern of the household in Debre Markos town
- to investigate the major determinants that affect the household consumption expenditure

1.4. Significance of the study

The study provides information and frame work to the residents of Debre Markos town about consumption expenditure pattern.

1.5. Scope of the Study

The scope of this study was to find out the determinants of the household consumption expenditure in Debre Markos town. For reasons associated with time and resource, the scope of the study was delimited to Kebele 05 households in Debre Markos town.

1.6. Limitation of the study

The following problems were taken as limitations of this research.

- Some respondents do not return Interview Schedule.
- Some respondents lack knowledge about how much they consume and income they have.
- Due to shortage of time and financial support, the study was delimited to a single Kebele.

2. Literature Review

2.1. Basic concepts and definition of Consumption

Consumption is the use of commodities by the household. It is a three stage process, encompassing acquisition of goods and services from all sources, their use to maintain household well-beings and the disposal of consumption residues. Although purchase of goods and services has received and continues to receive by far the most attention, many goods and services are actually obtained from non-market sources. Such items include the use of parks and other recreational areas, streets and highways, subsidized transportation systems, fire and police protection, public education and educational services, and free or subsidized health care. Disposal of consumption residues is another neglected aspect of consumption that is being forcefully brought to our attention by growing problems and solid waste disposal and environmental deterioration [30]. Consumption is simply defined as the total demand for all consumer goods and services. The authors in [1,17] defined consumption as the spending by households on goods and services such as clothing, food items, entertainment,

health services and acquisition of assets among others. Arising from this definition is the concept of consumption function which shows the relationship between consumption and disposable income. The term “consumption” originates from Lord Keynes psychological law which says that men are disposed as a rule and on the average increase their consumption as income increases but not by as much as the increase in their income. This law is known as the Absolute Income Hypothesis (AIH). However, further investigation into the determinants of consumption expenditures have revealed that consumption expenditures is determined by many other factors aside income. The author in [4], defined consumption as the part of income that was not saved, there by distinguishing between purchases that satisfy wants directly and investments that became assets in the absence of a satisfactory means of measuring the goods actually consumed, thus monetary measure of consumption has been widely accepted and used as a basis for predicting economic trend. The author in [19], opined that consumption represents the total quantity of goods and services bought and consumed by consumers during a period, that is, it is the expression of total consumer demand. He further said that the concept of consumption is important to the theory of income and employment. In economics, the word consumption simply means the using up of goods and services which may include the purchase of durable goods such as furniture or vehicles, as well as works of art that may increase in value over a period of time. In modern industrial economics, consumption as previously defined accounts for 70% to 80% of total national expenditure. On the other hand the authors of [8], defined consumption expenditure as the amount that household spends on purchasing goods and services for consumption. He equally submitted that consumption expenditure is by far the most significant of all basic types of expenditure that causes product to occur and thus income to be earned. He also gave the view that in any economy in which people have free choice, the total volume of personal consumption expenditure is determined primarily by the amount of disposable income (Y_d) that people receive. The quantitative association between consumption and disposable (After tax) income was first emphasized by Keynes [4] in his book the “propensity to consume” although nowadays it goes by the less elegant appellation “consumption function”. The basis of Keynesian theory of employment and income determination is that the amount of the commodity consumers depends on the income it receives in aggregate. Household: A group of person’s normally living together and taking food from common kitchen constitute a household. The word 'normally' means that the temporary visitors are excluded but temporary stay-a ways are included. Thus a son or daughter residing in hostel for studies is excluded from household of his/her parents, but a resident employee or resident servant or paying guest (but just not a tenant in the house) is included in the employers/host's household. 'Living together' is usually given more importance than 'sharing food from a common kitchen' in drawing the boundaries of a household. In case the two criteria are in conflict; however in special case of person taking food with his family but sleeping elsewhere (say, in shop or a different house) due to space shortage, the household formed by such a person's family members is taken to include the person also. Each inmate of mess, hotel, boarding house, etc. is considered as single member household but a family living in a hotel is considered to be one household only; the same applies to residential staff of such establishments [18]. Head of household: A head of household is a person who economically support or manages the household or for the reason of age or respect, is considered as head by members of the household or declares himself as head of household. Head of household could be male or female. Household consumption expenditure: is the value of consumers’ goods and services that were acquired (used or paid for) by household for the direct satisfaction of the needs and wants of its member through direct monetary purchases in the market, from production within the households. Household

also incur expenditure that do not result in the acquisition of any goods and services for the direct satisfaction of its own needs such as compulsory and quasi-compulsory transfers made to government, non-profit institutions and other household. These are referred to as the non-consumption expenditure of household. Household expenditure is the sum of household consumption expenditure and non-consumption expenditure.

2.2. Theoretical framework

Consumption being the most fundamental aspect of economic activity; it is not surprising that the study of consumption behavior has occupied a predominant position in economic science. The study of what, how much and when individuals consume had been the concerns of economists. This is not surprising for the consumer occupies the centre stage in economics.

2.2.1. An Evolutionary Theory of Household Consumption Behavior

The study propose the following general theoretical formulation, while not yet fully fleshed out, has the promise of bringing many aspects of consumer behavior with encompass of a behavioral and evolutionary economic theory. Regarding the objectives and satisfaction sought by household in their purchase of goods and services, as we have noted a number of empirical studies indicate strongly that the idea that household have a well defend coherent general utility function. In its place, we assume that a household has asset of particular wants it attends and that the goods and services it purchases are intended for use in meeting those wants. The study also assume that households can judge at least roughly whether particular wants are being met, or if wants satisfaction is a matter of degree, to assess with some consistency whether a particular want is being met better or less well in one situation as compared with another. In contrast, the study propose that, while not strictly random, once basic levels of wants satisfaction are met, households can have difficulty in judging whether they are better or worse off when one wants is met better and another less well than in an earlier situation, and their evaluation of this can be in consistent[6]. This formulation obviously departs from the view in standard neoclassical economics that sees households as having stable well-defined utility functions and acting as “utility maximizers”. On the other hand, the formulation is consistent with the view of the households as trying to meet their perceived needs and wants as well as they can give what they know or believe. Although, households are seen more confident and consistent about how to meet particular wants better or worse than they are about the trade-off involved in meeting different wants to different degrees. Obviously, some wants are partly basic and biological. But even in primitive societies, the range of that are attended goes far beyond anything that is closely linked to biological needs. And the customary ways meeting different want, even basic wants, differ greatly across societies. It is clear that both the wants that households attend, and the standard means of meeting, are strongly shaped by the culture surrounding a household, and with which its members grow up. But, it also clear that; there are significant differences across households with in a given experiences, circumstances, and other idiosyncratic element [6]. Household consumption behavior obviously operates under a set of constraints. Putting cultural bounding and the limits and requirements set by individual household idiosyncrasies aside for a moment, household purchases of the goods and services used in their activities to meet wants are limited by two other kinds of constraints. One is the budget constraints of standard consumer theory. The famous article “the backward art of spending money”: despair that many households had little idea as to how to use their budget

effectively. The second constraint stems from the fact the household consumption activities take time. More or less time can be spent sleeping or earning income. People can be hired to perform a variety of services. Thus, the time constraint for many households contemplating things they would like to do and can afford financially is lack of time to do them [21, 22] As evolutionary economic theories of the study, recognize that household consumption behavior is never completely static. The circumstance influencing consumption expenditure always includes some new elements. Children get older and adults too. Accidents and illness occur. Old friends move and new ones are made. Ideas are generated for new things to do. These kinds of changes always are going on, even if income and prices are constant. However, we think the concept household consumption equilibrium is a useful one as a benchmark for analysis of the household response to change condition and perception, and we define such concept below. Household consumption equilibrium involves, first, a set of wants it is attending and a want satisfaction target for each. Second, a collection of activities and activity levels it is using to meet each want, and a customary balance among the several. Third, purchases of inputs associated with those activities and third differential employment. In equilibrium, the mix of activities and their levels, and how the household organizes its activities, just meets want satisfaction targets, and the purchases of inputs fit within the household's budget and time constraints with little slack. And of particular importance the household has no tendency to change the circumstance, or changes are the thing it knows or believes [6].

2.2.2. The Permanent Income Hypothesis (PIH)

This hypothesis is primarily developed in 1976 winner of prize in University of Chicago, the author's of [20] point of view is the rejection of the usual concept of current income and its replacement with permanent income. A household permanent income in any one year is in no sense indicated by its current income to be received over a long period of time, stretching out over a number of future years. The author in [20] puts this permanent income is to be interpreted as the mean income regard as permanent by the consumer unit in question which in turn depends on it [2]. Households measured or observed income in any particular year may be larger or smaller than its permanent income. Friedman divides the households measured yearly income into permanent and transitory income, so that is measured income is large or smaller than its permanent income depending on the sum of positive and negative transitory income components. In the same way, Friedman divides measured consumption in to permanent and transitory components. A good purchased because of an attractive sale price or a normal purchase deferred due to unavailability of the good are examples of positive and negative transitory consumption[5].

2.2.3. The Life Cycle Hypothesis (LCH)

It is like permanent income hypothesis in that the individual consumption in any given time period does not depend on to a significant degree on his income during that period but depends on value of expected income wealth [20, 23]. The life cycle hypothesis is based on the argument that the rate of consumption in any given period is a facet of plan, which extends, over his life cycle, although his income displays a quit different pattern over the same year. According to him, age structure of the population is an important determinant of consumption pattern of different households in the economy. Consumption over someone's life time cannot exceeds his lifetime income unless that person is born wealth then according to Franco consumption spending is

financed by life time income and wealth[20]. One important reason that income varies over a person life is retirement. Most people plan to stop working at about age 65 and expect their income to fall when they retire. Yet, they do not want large drop in their standard of living, as measured by their consumption. To maintain consumption after retirement, people must save during their working years [5]. Based on the life cycle hypothesis, when a household enjoys an increasing or decreasing in income, there will be little effect on consumption.

2.2.4. Absolute Income Hypothesis (AIH)

Keynes[4] postulated the Keynes psychological law otherwise known as the Absolute Income Hypothesis (AIH). The law says that current consumption expenditures is a function of current disposable income and that as income increases, consumption expenditure also increases but at a decreasing rate. According to him, the marginal propensity to consume (MPC) is less than the average propensity to consume (APC) and that APC falls as income increases. Keynes proposition can thus be summarized as follows:

- i. The MPC is positive but less than one
- ii. The APC falls as income increases

The inadequacy of Keynes hypothesis led to more investigations on the determinants of consumption expenditures.

2.2.5. Relative Income Hypothesis (RIH)

The author of [3] developed the relative income hypothesis (RIH). The hypothesis says that the APC of a family depends on the family's level of income relative to the income of the neighborhood with which he identifies. The idea is that a family with any given level of income spends more on consumption if it lives in a community in which the income is relatively high. This is probably due to pressure on the family to keep up with other families in the environment. Hence consumption is a function of the income of the individual and the average income of the group he belongs. Moreover, Duesenberry [3] argued that current consumption depends not only on current income but also on the history of income. More often than not, individuals build up consumption standard that is geared towards their peak income level. Therefore, when income declines, the attained consumption standard will not be immediately sacrificed. This is called the 'ratchet effect' phenomenon and is based on two facts.

- i. Individual's consumption behavior is not independent of the behavior of every other individual
- ii. Consumption relations are irreversible over time.

Summarily, the RIH postulates that one's consumption behavior is influenced by that of his neighbor or his environment.

2.2.6. Inter temporal Choice

The Inter temporal Choice model was developed by an American Economist called Irving Fisher. The theory materialized in the 1940s, after the failure of the Keynesian model. Contrary to Keynes who assumed that current consumption is mainly determined by current income, Irving Fisher proposed a model which explains how rational consumers make choices concerning how much to consume today and save for tomorrow in order to maximize utility. He identified that people had a desire to consume more but are constrained by their income. Thus, their budget constraint hindered them from consuming as much as they wanted. He went on to compare consumers' decision on how much to consume today with how much to save for tomorrow with regards to the total resources available to him. This is known as the Inter temporal Budget Constraint.

2.3. Households consumption expenditure pattern and its determinants

Individual consumers are assumed to be in the best position to judge their own needs and preferences and to make their own choices. It is unbiased to assume that people know what they are looking for and have reasons for their preferences when they choose one consumption pattern over another. Yet millions of people faces too narrow a range of consumptions, which prevents them from enlarging their capabilities. They may not be able to get enough food, may lack health care services or may have little access to transport beyond their own feet. There are many factors causing these constraints on consumption option of the households. Income is not the only one. Other factors include household size, age of the head of household, education of the head of household etc.

2.3.1. The Impacts of the Age of the Head of the Household on household's consumption expenditure

Older people have generally shorter life spans and tend to save less and to spend more than younger people. From another point of view, the elderly may have experienced a decrease in income and as such, face the decision of how to allocate money during the late period of the life stage. To maximize satisfaction, households may borrow during the early period of life cycle to offset debt, repay the debt and accumulate wealth during the middle age, and borrow from savings to adjust for the decreased income during retirement. The age structure of the household plays an important role. Young family members may spend substantially on education, while old people may want to put a good amount of money into health insurance. For a particular consumption item, households with same income level but different age structures may have a different spending pattern. There is a clear difference and pattern in the allocation of resources for the consumption of food and beverages based on the age of the head of the family. It appears that as the age increases the expenditure share for food also increases. Expenditure on housing increases at the earlier ages of the head of the household. One reason for the increase on the share of expenditure on housing might be that expenditure on housing is considered as a long term investment. People tend to make major investment decisions in their earlier age. It is reasonable to say that people allocate more for entertainment and leisure services during their prime age. As people get older their health the state of their health deteriorates and more is allocated towards health care and health related expenditures [7].

2.3.2. The impact of educational status on household consumption expenditure

Skilled labor and capital are complementary factors of production. The higher skilled service occupations such as managerial, teaching, and professional specialty require the greatest amount of skill, education, and training. This contributes strongly to the greater degree of complementarity of capital and labor in these occupations. During economic downturns, employment in different occupations may be adversely affected with varying degrees of severity. Likewise, disparities in employment gains among different occupations may be expected during recoveries due to the individual characteristics of these various jobs. The consumer unit's educational attainment and the employment status of the consumer unit head and the spouse are expected to influence the expenditure patterns due to the impact on prices of goods and services and permanent incomes. Based on home production models of behavior pioneered by [24], households are postulated to produce basic goods by combining market purchased goods and services with the time of various members of the household. As time becomes more expensive, production of all basic goods will become less time-intensive. On the other hand, the relative prices of time-intensive basic goods will rise causing the quantities demanded of such products to decline. This will bring changes in the way consumer units spend their incomes on market purchased goods and services. Hence, any changes in the educational attainment that influence valuation of time can be expected to change the pattern of consumer unit expenditures

2.3.3. The Impact of the Family size on household's consumption expenditure

It is the total numbers of household members and the major determinants of consumption expenditure in the household. It appears that as age and family size increase the expenditure shares for food and beverages also increases. The more the number of people in a household the more food consumed causing an increase in the share of expenditure for food. The effect of the size of the household has a positive effect on goods and services which are considered basic necessities; goods such as food, health and utilities [7].

2.3.4. Consumption and disposable personal income

Income gives people have the ability to buy nutritious foods, to pay for health care and education for their families, to pay for water from a tap instead of walking for many hours to collect it from a well. The increasing dependence of much consumption on private income means that changes in income have a dominant influence on changes in consumption. When income rises steadily consumption rises for most of the population. But for the same reason, when income decline, consumption also falls sharply, with devastating consequences for human wellbeing. It is seems reasonable to expect that consumption spending by household will be closely related to their disposable income, which equal to the income household receive less taxes they pay. The relationship between consumption and personal disposable income is called consumption function. Consumption depends on real disposable income, wealth, the overall price level, expectations, etc. This means that the decision to spend income on consumption goods largely is determined by these factors. Some of these factors have positive impact on consumption expenditure, others have negative impact. Of all these factors the most important is the level of real disposable income. If real disposable income increases, individual and households are likely to increase their consumption spending. Decreasing real disposable income will depress total consumption. Therefore, there is a positive relationship between real disposable income and consumption [26, 27].

2.3.5. The effect of household saving status on household consumption expenditures

The author in [25] defines household savings as the difference between a household's disposable income and its consumption. The household savings rate is calculated by dividing household savings by household disposable income. A negative savings rate indicates that a household spends more than it earns as regular income and finances some of its expenditure through credit or through gains from the sale of assets or by running down cash reserves. Generally, saving may be thought of as resources created or outputs produced in the current period that are not consumed in the current period but rather are made available for future consumption. With this idea in mind, saving is alternatively defined as income minus consumption, or the change in wealth, or the supply of capital. Households' savings are an important component of individuals and society's well being. Households save owing to the following reasons: to build a reserve against unforeseen contingencies (precautionary motive); for smoothing consumption at different stages in life cycle due to income fluctuations (life cycle motive); to enjoy interest and appreciation (Inter temporal substitution motive); and to enjoy a gradually increasing expenditure (improvement motive). In addition, they save to enjoy a sense of financial freedom and independence (independence motive); to secure finance to carryout speculative or business project (enterprise motive); to bequeath a fortune (bequest motive); to satisfy pure miserliness (avarice motive); and finally, to accumulate deposits to buy houses, vehicles and other durables (down payment motive) [4, 28].

2.4. Review of Empirical Literature

The empirical analysis of the household consumption behavior was pioneered by the work of Engel. In the mid-19th century, he proposed his famous law of consumption, which is formulated based on the family budget studies of different countries. The establishment of this law itself is thus taken as the first significant quantitative approach contributed to the field [29]. In addition to this; the author in [11], analyzed household consumption behavior in Addis Ababa by using 871 households as a sample size with simple random sampling technique. His methodology was both descriptive and econometric. The variables that he used as explanatory were household's income and family size. Accordingly, both explanatory variables affect household consumption positively. As he mentioned in his paper subsequent studies by [31,32] using this law of consumption have proved that the share of food consumption in poor countries is higher than that in rich countries and even within a country it declines over time as its national income raised. Several studies were also attempted to drive generalization about the other categories of consumption, particularly for housing and clothing but the result lack harmony by themselves to provide a universally accepted law like the one for food. Additionally, author of [33] analyzed changes in consumption patterns in urban Ethiopia, Addis Ababa by using working lesser demand function as a Dependent Variable, per capita income and other demand factors like dependence ratio, age and family dummy As Independent Variables. He used both primary and secondary data. According to his finding, age affects food demand negatively. The demand for high value food items (example: meat, milk vegetables and fruits) increase with higher income. They are also expensive source of energy. This implies that poor households are unlike to access them. This is largely because poor households prioritize to fulfill their basic energy requirement to avoid hunger. This is mainly because high value food to be expensive source of energy for them. Households with income near to subsistence level, consume large quantities of grains and starchy staples and few fruits, vegetable, meat, milk, and milk products. Consumer preferences on the other hand, shape the decision of

consumer what to do consume or not. Poor households, until they meet physiological need to satisfy hunger, they have little choice but to focus on cheap sources of energy as grains and starchy staples. Once they satisfied their basic energy needs, households start to diversify their diets by including animals' food sources, dairy products and fruits and vegetable [33, 34]. Most previous research studies reached from the following results. First, there has been a considerable improvement in frequency of food consumption between 1994 and 2004. Second, Ethiopians urban consumption pattern is shifting from traditional stable and high value food items such as milk and milk products, meat and fruits. This change in consumption pattern is stronger in Addis Ababa than others. Among others, share of food expenditure spent on meat has registered a radical shift from about two percent in 1994 to 13 % in 2004. This is perhaps expected to continue to increase at a significant rate if current growth momentum of economy maintained. Third, deviation in average monthly per capita food expenditure between the poorest and the richest is exceedingly wide. The richest group has nine times higher per capita expenditure on food compared to poorest. Fourth, the estimated income elasticity of demand for stable foods is significantly lower than most non- stable high value food products. This imply that food consumption pattern in urban Ethiopia is shifting from stable grain commodities to no stable and high value food products. Fifth, in addition to income, food demand in urban Ethiopia is affected by Regional and demographic factors that are Gender, education, household size and age [11, 33]. The empirical evidence explained above indicates that the determinants of the household consumption in many areas are similar but, some socio-economic factor, shows different effect based on specific conditions of the study area. Even though the previous studies are so good, they are not taken into account some determinants like disposable income, saving and some other socio economic factor that determine household consumption pattern.

3. Methodology

3.1. Description of the study area

Debre Markos town is located in North western Ethiopia in Amhara National Regional State, East Gojjam Zone, at a distance 300 kilometer from the capital of Addis Ababa and 265 kilometer from Bahir Dar, the capital of Amhara National Regional State. Its astronomical location is 10⁰ 21" North latitude and 37⁰ 43" East longitudes. The town has 7 Kebeles with population of 119,429 of whom 55624 are Male and 63805 are Female.

3.2. Sample size and Method of sampling Technique

For the purpose of data collection, sample for the study was selected by using multistage random sampling technique .At the first stage the town was subdivided in to a number of geographical clusters (Kebeles), and then simple random sampling method was applied to draw one sample Kebele. At the second stage, systematic random sampling techniques were used to the sampled Kebele in order to draw a total sample size of 100 households from the population of 1911 in kebele **05**.

Sample size was determined by using the formula developed by [35].

$$n = \frac{N}{1 + N \times e^2}$$

Where;

n =Sample size

N =Total population=1911 (Kebele_05 population)

e =error tolerance (decided to be taken 10% for this study=0.1)

We get $n=100$. These 100 sampled households are respondents to collect primary data.

3.3. Data Source and Techniques of Data Collection

The data employ in this study were primary and secondary data. The primary data were collected through standard Interview Schedule from households, the demographics factor was enquired at first in the data collection. The Interview Schedule has set of questions containing both closed ended and open ended questions. Because closed ended questions are quicker and easier for both respondent and researcher. Moreover, structured Interview Schedule was used to get reliable information on:

- Demographic characteristics' like household size, age of the head of household, sex, religion
- Economic characteristics' like Government employee, Self-employee Moreover data on household consumption expenditure and income were collected.

3.4. Methods of Data Analysis

3.4.1. Descriptive Analysis

Descriptive statistical methods such as mean, standard deviation and percentage were used to describe the data gathered from households.

3.4.2. Econometric Analysis

1. Model Specification

Multiple linear regression models are used to determine socio-economic and demographic factors affecting the household consumption expenditure. The regression model specifies as follows:

$$C_i = \beta_0 + \beta_1 Y_{di} + \beta_2 Age_i + \beta_3 Ni + \beta_4 Educi + \beta_5 Si + \beta_6 Gender_i + ui \quad (3.1)$$

- C_i = total household consumption expenditure per month of a household (in Birr) , $i= 1,2,...100$
- Y_{di} =household disposable income per month
- Ni =household family size
- $Educi$ =education level of household head (1=those who educated primary education(1-8) 2=those who educated secondary education(9-12) 3= those who educated college level education 4= those who educated higher level education)

- Agei = age of household head in year
- Si = household saving status:(yes=1, no=0)
- Genderi =gender, if consumer is male=0, female=1
- Ui =error term
- Bi=coefficient of explanatory variables
- B0 =autonomous consumption or constant

2. Specification of variable

I. Dependent Variable: Household Consumption Expenditure

Household consumption expenditure is obtained by adding reported household expenditure on food and non-food items. The definition of consumption is quite comprehensive as it incorporates all food and non-food items consumed. But expenditure on durable goods was excluded. So for this analysis we use consumption expenditure as dependent variable.

II. Independent Variables

- Household disposable income (Y_d) - It is the income after tax (net income of the household from different source of income).
- Family size (n_i):- It is the total numbers of the household members.
- Age of the household head (age)
- Education level of the household head (Educ)
- Saving status of the household (s_i)

4. Results and Discussion

4.1. Descriptive statistics result

Table 1: Descriptive result of Total monthly consumption^a of respondents

Statistic	N	Min	1st Qu.	Median	Mean	3rd Qu.	Max	skewness	Kurtosis
Value (Birr)	100	683	3738	4586	5359	6133	16433	1.442	2.295

As shown in Table 1 above, the minimum monthly consumption level is 683 Birr, maximum 16,433 Birr. Half (50%) of the respondents was consumed less than 5050 Birr (Median value) and the rest above this value. The mean was 5777 Birr, large as compared to median. This is because some households consume high as compared to most of the households, indicated by a skewness value (1.442 which is greater than zero). So the data is near to approximately normal. The kurtosis value ($=2.295 < 3$) also indicates the consumption data has a flat topped curve structure. (See the figure below).

^a Total monthly consumption is obtained by adding 8 components : education , food, cultural life, energy, health, recreation, cloth, and expense for other activities

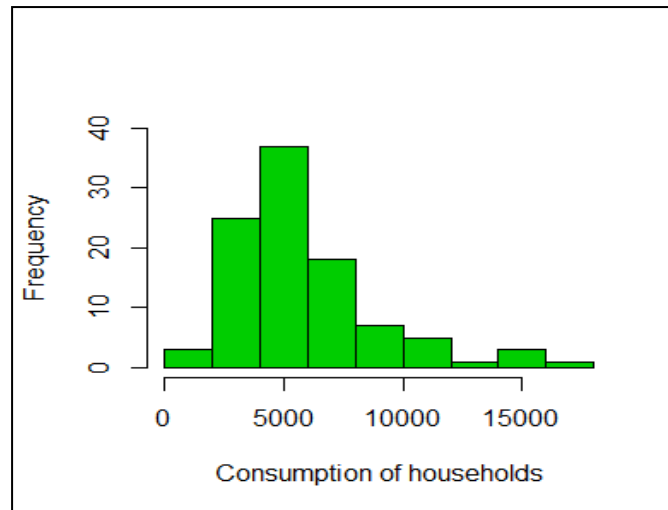


Figure 1: Total consumption of households per month

Table 2: Descriptive result of components of consumption of respondents

Variables	Min.	1 st Qu	Median	Mean	3rd Qu	Max
Education	58.0	300.0	400.0	542.6	700.0	2500.0
Food	300	1950	2500	2779	3000	13000
Cultural life	20.0	260.5	417.0	570.7	600.0	3000.0
Enregy	20.0	100.0	158.5	240.3	300.0	1100.0
Health	12.50	54.25	112.50	262.09	200.0	5000.0
Recreation	10.0	100.0	200.0	289.6	387.5	2000.0
Cloth	41.0	250.0	400.0	649.3	800.0	6000.0
Other	7.0	92.5	200.0	343.8	412.8	4000.0
Tcons	683	3738	4586	5359	6133	16433

As Table 2 shows, households expend more for food and next to this for cloth, cultural life and education. Fewer amounts were spent to recreation, health, and energy usage (based on mean value). For other social and miscellaneous activities like washing, transportation and so on together a house spends a mean value of about 344 birr monthly.

Table 3: descriptive result of consumption with background of respondents

Type of Variables		Total Consumption	Disposable Income	Saving
		Mean	Mean	Mean
Sex	Male	5917.642	6676.622	1696.482
	Female	5376.846	5515.385	1096.47
Educ.level	not Read & Write	5089.727		
	Read & Write	5212.087		
	1-8	4852.667		
	9-12	4673.500		
	Certificate or Diploma	6868.000		
	Degree & above	5224.583		
Occupation	Governmental	4816.154		
	Self-employed	5718.991		
	Others	5623.375		

The above Table 3 shows mean disposable monthly income, consumption, and saving amount of Male household heads are higher than that of Female household heads. Considering education level of the household heads, the consumption level has no much difference. Regarding occupation, those who work in Governmental institutions consume little less than Self-employed (based on mean consumption value, in Birr).

4.2. Econometric results

Table 4: Multiple Linear Regressions with all predictors

Coefficients:				
	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	148.4942	499.8110	0.30	0.767
Disposable_income	0.6285	0.0491	12.81	< 2e-16 ***
age	14.9301	12.8668	1.16	0.250
Family_size	180.0655	97.8094	1.84	0.071 .
Educ.level.L	580.1046	369.0803	1.57	0.121
Educ.level.Q	312.1488	354.7028	0.88	0.382
Educ.level.C	-395.4934	336.3724	-1.18	0.244
Educ.level^4	-377.6162	318.0355	-1.19	0.240
Educ.level^5	42.7355	374.3571	0.11	0.909
Sexfemale	174.6576	305.7723	0.57	0.570
Saving	-0.5585	0.0752	-7.42	4.8e-10 ***
Occupationself employed	193.5935	291.7626	0.66	0.510
Occupationother	721.6028	500.8933	1.44	0.155

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				
Residual standard error: 1000 on 60 degrees of freedom				
(27 observations deleted due to missingness)				
Multiple R-squared: 0.872, Adjusted R-squared: 0.846				
F-statistic: 34 on 12 and 60 DF, p-value: <2e-16				

Correlation of Age and Family size


```
>cor(age,Family_size) [1] 0.4913
```

As we see the coefficient in Table 4 above , variables disposable income, Family size and saving amount are significantly contribute (p-value small compared to 0.05) to predict Total consumption of the household per month. Other variables are not significant (P value very large >0.05). In fact, the correlation coefficient between age of the household and family size is 0.4913, large. These variables have same information. We use Family size and remove age for giving emphasis about family size on consumption, by convenience. Removing other variables, and fitting the model with significant variables at 5 % level of significance, we obtained the result shown in Table 5 below.

Table 5: multiple linear regression with selected predictors

Coefficients:				
	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	758.0333	304.0911	2.49	0.0151 *
Disposable_income	0.6689	0.0460	14.55	< 2e-16 ***
Family_size	197.9430	74.4771	2.66	0.0098 **
Saving	-0.6058	0.0711	-8.52	2.2e-12 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				
Residual standard error: 1010 on 69 degrees of freedom				
(27 observations deleted due to missingness)				
Multiple R-squared: 0.85, Adjusted R-squared: 0.844				
F-statistic: 130 on 3 and 69 DF, p-value: <2e-16				

Our final model is written as follows:

$$\hat{C} = 758.03 + 0.67(\text{disposable_income}) + 197.94(\text{family_size}) - 0.61(\text{Save}) \quad (4.1)$$

Where,

- \hat{C}_i Represents estimated monthly total consumption of the household
- *disposable_income* = *disposable_income* of a household (in Birr)
- *Save* = *amount of Save* (measured in Birr)

The model above tells us, disposable income and family size are positively related with consumption whereas saving is negatively related. The value 197.94 is the marginal increase to consumption for one additional increase of a Family size, while saving amount and disposable income held constant. If saving amount increases consumption will decrease. (The sign is negative). As disposable income increases also is consumption. This supports the theory of consumption. The multiple R squared value = 0.85, indicates about 85% of variation of consumption is due to saving amount, family size and income. The rest 15 % is due to other factors not mentioned in the model. Thus R square is large, indicating our model fits well to the data and we can use for prediction.

Standardized Betas

>fm\$sbetas

Disposable_income	Saving	Family_size
1.0789442	-0.5402832	0.1525245

As we see the values of standardized betas, the value is large for Disposable income (=1.08) compared to others. This shows that the disposable income is most determinant factor. The second is Family size and the least one is saving amount. This is so because when people save more they must reduce consumption.

4.3. Discussion of results

This research paper explores the Consumption expenditure of 100 sampled households in Debremarkos town, Amhara region of Ethiopia. The minimum monthly consumption level is 683 Birr and maximum 16,433 Birr. This indicates that there is high difference among households consumption expenditure. In relation to this the median value of the households' consumption expenditure was 5050 Birr. In this study, the households spent more amounts for food and next to this for cloth, education, and cultural life This is consistent to a study conducted in urban Ethiopia about changes in food consumption patterns [33]. Thus high consumption on food implies households have less income for other activities. The mean disposable monthly income, consumption, and saving amount of Male household heads are higher than that of Female household heads [33]. This may be due to the fact that males work in paid where as females participate more in non paid activities at their home. This shows that gender disparity interms of job and wages in differentiation of the both sexes. Comparatively speaking, Male household heads are spending more than Female household heads because Females are not

economically independent still now. This was supported by the response of open ended question of the Interview Schedule concerning their contribution to generate income. Also the study shows, those who work in governmental institutions consume little less than self-employed (based on mean consumption value, in Birr). Considering education level of the household heads, the consumption level has no much difference. This is inconsistent with [33]. In this study disposable income, Family size and saving amount were found to have significant contribution to predict Total consumption of a household per month. Disposable income and family size are positively related with consumption whereas saving is negatively related. As disposable income increases, correspondingly the consumption also increases. This supports the theory of consumption. The study also suggests about 85% of variation of consumption is due to saving amount, family size and income. This study identifies disposable income is most determinant factor for the household consumption expenditure [11]. Next to this is Family size. The least one is saving amount. This is so because when people save more they must reduce consumption.

5. Conclusion and recommendation

5.1. Conclusion

From results obtained in descriptive and econometrics analysis, we conclude the following ideas.

- Most of the households consume around 5000 Birr monthly in the study Keble, with food ranked first.
- Disposable income and family size are directly related to consumption as we expected and saving amount is negatively related with consumption
- Disposable income is found to be most determinant factor to confirm the household consumption.
- Even though education level is not significant, it may have effect on daily life decisions.

5.2. Recommendations

- Households should be aware of saving habit rather than spending more to irrelevant activities.
- Family planning practice is important to limit family size. As such it is possible to minimize consumption and it increases saving amount.
- The Government should design and implement policies that raise disposable income of households so that households work to earn more money and make their living standard better.
- Further research study could be conducted in other Kebeles of town and comparison may be done for future.

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6. List of Acronyms

AIH =Absolute Income Hypothesis

APC=Average Propensity to Consume

CSA=Central Statistical Agency

C= Total household consumption expenditure

GDP=Gross Domestic Product

GNP=Gross National Product

LCH=Life Cycle Hypothesis

MPC=Marginal Propensity to Consume

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